



Square Hanging Pot



Operation Manual

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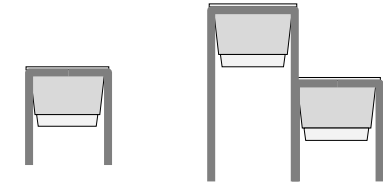
Square pot instruction updated 22.5.2019

Jim's Auto-pot

Notes - to connect or remove tubing from joiners, heat up the ends of tubing with a cigarette lighter

Keep the pots off the ground

Metal frames to support the pots off the ground. Versions with steps



Check the content of the 4-pot kit.

This kit consists of the following items:-

1. Square pots (no chain) x 4 units (complete with built-in Smart-valve)
2. Nuwa tank/lid 60L and legs x 4 pcs
3. Nutreints A/B 2x2L
4. Perlite 5L x 4 units
5. In-line filter 13/4mm x 1 pc
6. 4mm taps x 5 pcs
7. 4mm T-joints x 3 pcs
8. 4mm soft-tubing 10M x 1 roll

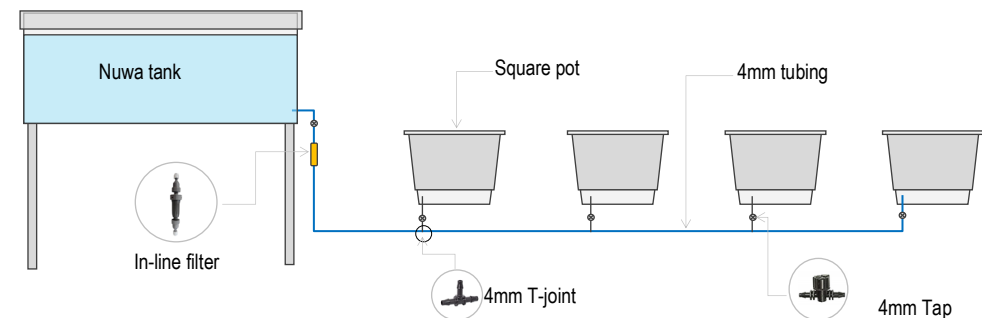
Check to make sure you have all the items included.

The kit is basically made up of 3 components:-

- the tank as the reservoir
- the growing units as the square pots
- the fittings and connectors

Setting up the kit

Refer to page 4 installation



Layout of the 4-square pot kit

POTTING YOUR PLANTS

You have three choices

1. Direct sowing
2. Plant seedlings
3. Plant established or semi established plants.

We prefer at least a semi established plant because you will see the results of your purchase quicker that way, but Auto-Pot will give you amazing results whichever way you choose.

Use one plant to a pot if plants are established in 5 to 6 inch pots. Use up to 3 plants per pot for smaller planting material.

Growing medium

Use good quality potting mix.

Basal fertilizer

Use a 12-month slow release fertilizer during potting if your system does not have an automatic feeding system.

Planting

The principles you would normally carry out with potting a plant still apply.

First, fill the bottom of pot completely covering the three slotted recesses to the level of the Smart-valve housing. (see diagram A). Then apply a gentle pressure to firm the potting mix lightly.

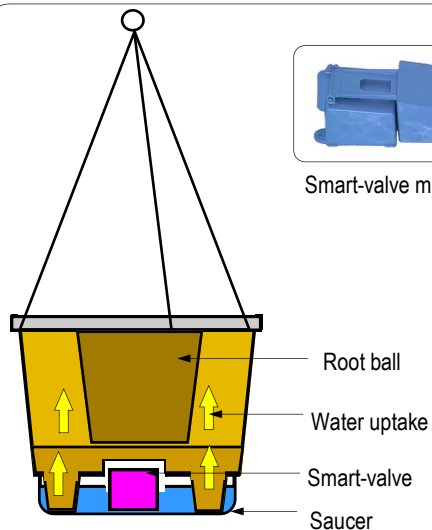
HOW THE AUTO-POT SYSTEMS WORK

It is important to understand how an Auto-Pot hanging basket works so that you will know how to look after the equipment better.

1. Starting empty, the Smart-valve opens to allow water to fill the saucer.
2. Once the water level in the saucer reaches 30mm (approx.), the valve closes to stop the flow of water.
3. Water is absorbed into the potting mix from the saucer via the two columns of the hanging basket to the plant by capillary action.
4. As the water is consumed by the plant, a time will come when the saucer will be devoid of water. As soon as that happens, the Smart-valve (which has the ability to detect the absence of water in the saucer) will immediately release another consignment of water into the saucer to its original level. This completes one wet and dry watering cycle which is repeated according to the plants demand.



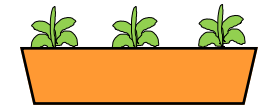
Smart-valve mk2



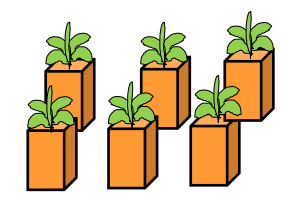
Sectional view of a hanging basket

PLANTING WITH SEEDLINGS

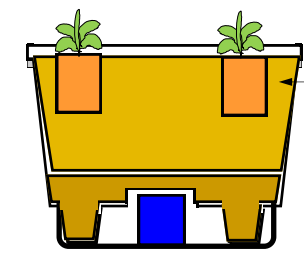
- Fill the hanging basket with potting mix one layer at a time. Each layer is about 2 inches thick and firmed lightly.
- Then plant the seedlings as shown below.



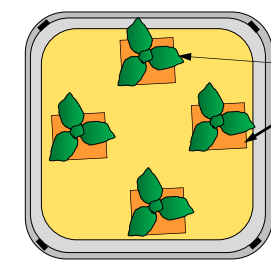
Divide punnet .



Normally you will get 6 seedlings from a punnet.



Plant three seedlings to one hanging basket



Plant the seedlings along the edge of the hanging baskets. 4 seedlings to one basket.

TROUBLE SHOOTING

There is not much that can go wrong with your Auto-Pot Systems, but there are a few tips that could help you in case you have a problem.

1. Leaking from the joints

Some joints are not compatible with the tubing. Use of brands like Hardie is recommended. Sometimes, tubing itself may have a small puncture. Cut the section and rejoin with a straight joint.

2. You suspect That One of the Pots is Not Getting Water.

This is easily checked. Simply open the line at the joint nearest to the pot.

If water comes through the line it is OK up to that point. If the pot is dry it is probable that the Smart-valve may need a check.

Open the saucer to check the valve if it is working properly. If it lets in water, then the problem is somewhere else.

If it is within the warranty period of 12 months from purchase, your valve could be returned to us for repair or replacement if you are unable to fix it.

If there is no water in the line, there are few other possibilities :-

A) If the pot is higher than the tap by more than 5 meters, then it may out of range of the working pressure of the tap regulator. You need to locate the pot to a lower position.

B) If it is within 5 M and the tubing is dry, then the tubing could suffer from an air lock along the line. You may have to go back to every joint until you locate the point where there is water. Then reconnect tubing progressively checking the flow of water.

C) If it is within 5 M and air lock problem is being ruled out, then your pressure regulator may need a check.

- to test the pressure of the regulator, connect only to one long tubing (10M) and raise it slowly until the height where the water stops flowing through. The height in feet divided by 2.5 would give you the approximate water pressure (p.s.i.) within the line.

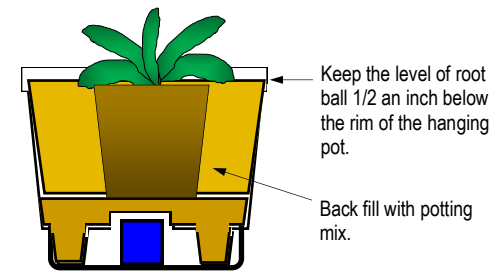
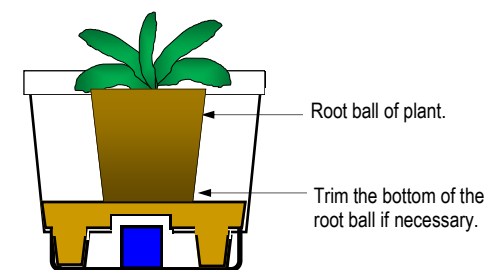
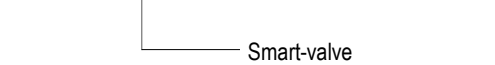
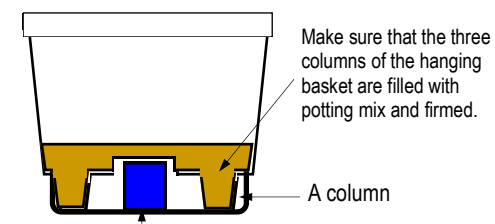
In such a case, you may have to remove the regulator and post it back to us for a replacement if it is within the warranty period. After the period, there will be a small service charge to have it repaired.

Salt build up

With Auto-Pot systems, there is no need to worry about the effects of salt build up in the growing medium. Our trials have confirmed beyond any doubt that the plants will do very well for years without any form of flushing.

Root Interference

Plants (a good example is Petunia) that have aggressive root system may jam the valve over time. To overcome the problem, prune the roots ONLY when the plants show signs of stress (incidences are rare). Root pruning will not cause any harm to the plants. Fortunately, nearly all the plants do not require any root pruning for years. See page 9 on how to get access to the Smart-valve.



Remove the pot and place the root ball of the plant on the first layer of potting mix. If the root ball is too tall, trim the bottom away so that the surface of the root ball is about 1/2 an inch lower than the rim of the pot. Trimming the lower portion of the root ball would not cause any damage to the plant.

Then back fill the rest of the pot with potting mix .

After that, water the pot thoroughly from the top with at least 2 liters of water.

FEEDING FROM A TANK BY GRAVITY

Gravity feeding could be used effectively if there is a convenient position to place the reservoir tank.

Gravity Feeding For A Single Hanging Basket

For a single basket installation, the use of a pulley system to lift and lower reservoir tank is a good option.

Gravity Feeding For A Number Of Hanging Baskets

For 1 to 6 hanging baskets, they can be fed with a 4mm delivery feed line. With a larger number of hanging baskets, the main feed line should be 13mm and then branching off with 4mm tubing to individual hanging basket.

Positioning The Reservoir

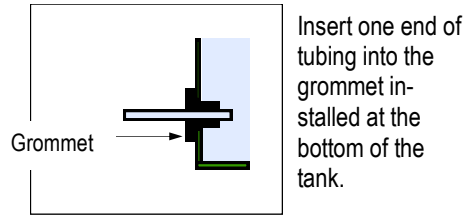
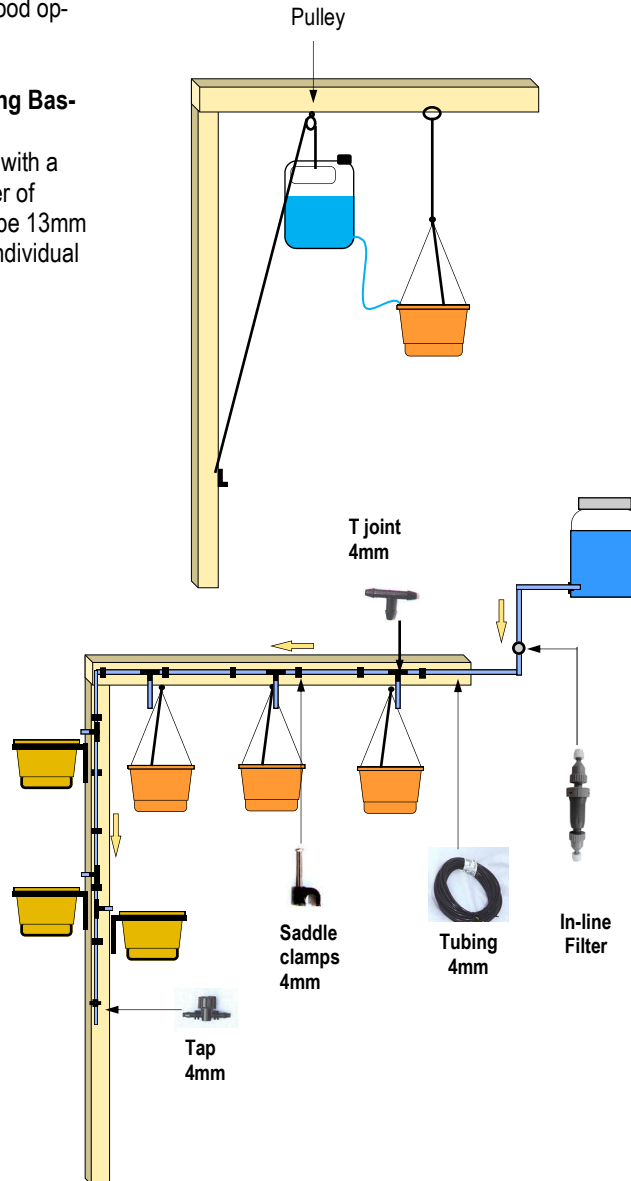
Install the reservoir tank as high as practical. The minimum height above the highest hanging basket should be at least 1 M. The higher the better.

Connecting To The Filter

Cut the tubing a foot away from the reservoir for connecting the filter to the feed line.

Connecting and Removal Of Fittings

When connecting or detaching tubing from the fittings, always use hot water or a lighter to heat and soften the cut surfaces. This will make your job easier.



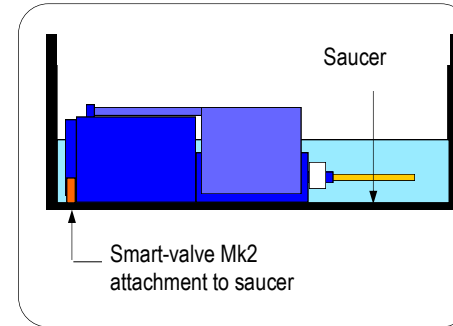
Insert one end of tubing into the grommet installed at the bottom of the tank.

TESTING THE SMART-VALVE MK2

You can test the valve yourself to determine if it is working properly.

To test valve, do the following:-

- detach saucer from the hanging pot with the tubing connection still intact
- discard all the fluid in the saucer and place it up right again
- the fluid in the dish gradually rises to about 30mm and should shut off.
- then the valve is working perfectly.



TROUBLE SHOOTING

Very little can go wrong with the new Smart-valve Mk2. It has undergone years of testing before we finally arrived at this design – which is a new invention in its own right.

If the valve does not allow nutrient to flow, the most likely problem is a blockage in the valve. To clear blockages, remove the valve from the saucer. Take the bottom float out and clear off all debris that have accumulated over time. Clear the orifice with a piece of thin wire and hose the dirt off, preferably under some pressure.

Valve does not shut

There are a few possibilities here:-

- lower float could be jammed due to dirt. Remove valve and clean.
- rubber seal dislodged from the lower float. Get a replacement from supplier.
- rubber seal fatigue. Remove the rubber seal from the lower float and refit the rubber seal on its flip side.

*** Please note that the top float is designed to stay permanently on its hinge and attempts to remove it will cause irreparable damage to the valve.

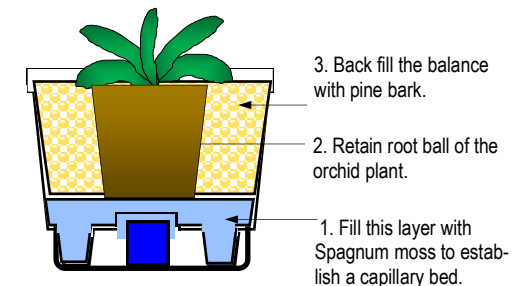
*** Always keep the valve compartment free from debris.

PLANT VARIETIES

You will find that Auto-Pot Systems can grow a amazing types of plants without any form of adjustment to the treatment of the plant when all hooked on to a same feeding unit. All you have to make sure is that the plant chosen is suited for the environment.

ORCHIDS

However, aerial orchid species require a slightly different planting technique as described below.



SERVICING

To open and close the saucer to remove or install the Smart-valve is straightforward.



1. Note the position of the latch that locks the saucer in place.



2. To release the saucer just pull the latch slight outwards to unlock.



3. The saucer will swing open on the hinge.



4. The Smart-valve Mk2 can be detached from the saucer by gently pulling it out of the socket attachment.



5. Re-install the Smart-valve into its original position in the saucer. Make sure it is securely locked on to the saucer.



6. Socket attachment for the Smart-valve Mk2 – view enlarged.

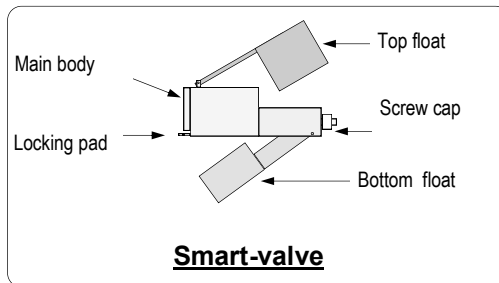


7. Lift the saucer upwards with a quick action to snap lock the saucer to the body of the pot.

CARING FOR THE SMART-VALVE

About The Smart-valve– Mk2

This is a new version of the Smart-valve Mk1. It performs an identical function. But it differs completely in its construction. It has been designed to make it easier for the user to clean and service the valve.



Smart-valve

The valve is a sensitive mechanical device but with careful and correct usage will give reliable and trouble free results for years.

The valve should not be totally submerged in water. Total immersion might cause a failure of the valve to close due to the possibility of water entering the top float.

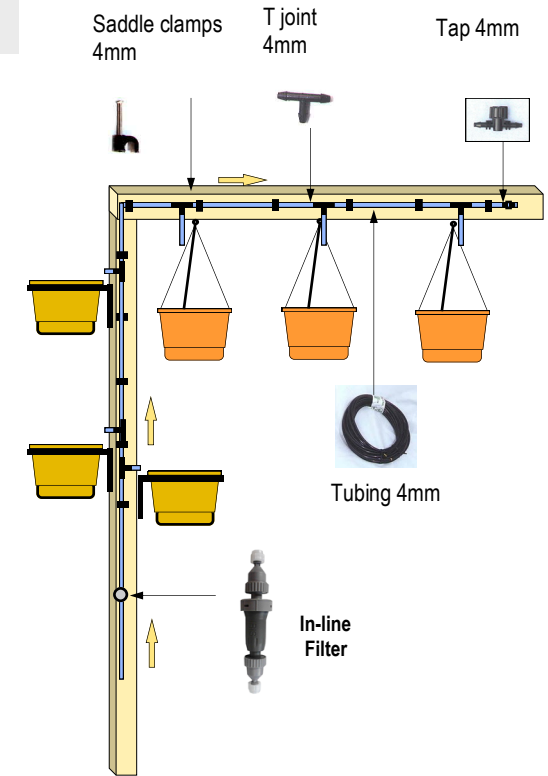
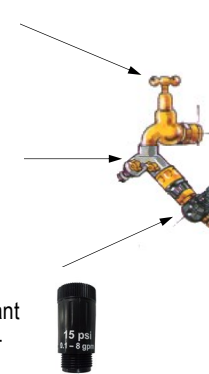
FEEDING FROM PRESSURE REDUCTION VALVE.

Pressure reduction valve reduces the in-coming water mains pressure. The feed line is 4mm tubing. It can manage up to 50 hanging baskets. Feeding has to be done manually.

Tap permanently turned on.

Y tap connector

Pressure regulator - maintains a constant 10 psi working pressure.



FILTER

The filter should be service once in 2 to 8 weeks depending on water quality. To clean, back flush the filter in opposite directions under some water pressure with a garden hose.

**** (Removal of filters from tubing)

It is important to remember to heat and soften the tubing/filter connecting points with hot water before detaching the filter from the tubing. Forcibly removing disconnecting filter from the tubing without heating will cause damage to the filter.

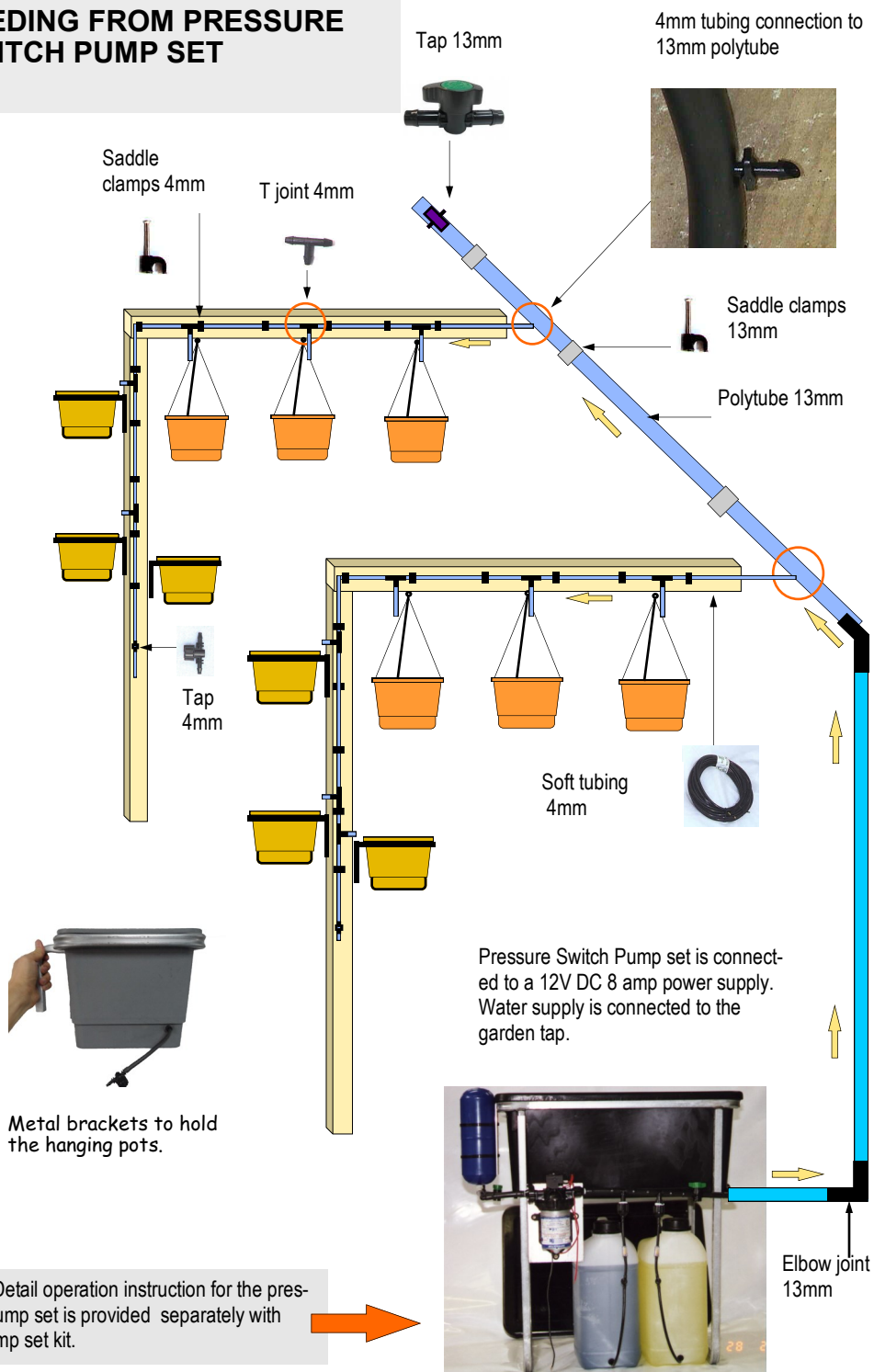
1. Leaking From The Tap

Put a little more Teflon tape round the thread. If it is a very old and worn tap you may need to replace it if use of more Teflon tape does not do the job. Often the leak may come from the tap itself.

2. Leaking From The Regulator

The first thing to do is to ensure that it is connected properly. If it is fitting well but still leaking, you may have to change the tap adapter. A brand that has proven to be reliable is "Nylex". The regulator itself is a complete and sealed unit. The pressure is pre-set to about 10 PSI. Do not force it open. This may damage it and disqualify yourself from the warranty period.

FEEDING FROM PRESSURE SWITCH PUMP SET



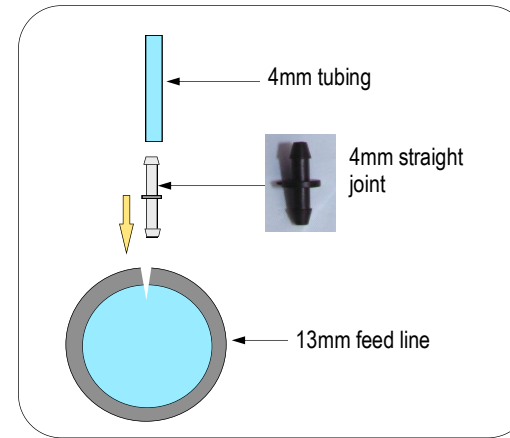
CONNECTING SMART-VALVE TO THE 13MM POLYTUBE

From the Smart-valve, the 4mm tubing is connected to a 4mm tap. The 4mm tubing is extended from the 4mm tap to the 13mm main feed line.

To connect 4mm tubing to 13mm feed line, first puncture a hole in the 13mm tubing with a hole puncher or a rounded sharp object (e.g. a nail). Then insert a 4mm straight joint to the 13mm as shown below.



Hole puncher



GOING ON A LONG VACATION

For those using gravity fed method, you need to provide sufficient water to last the duration of your trip. As a rule of thumb, allow 300ml of water per pot per day. For other feeding methods, it is advisable to have someone to keep an eye of the system for you.

PREPARING NUTRIENTS

Follow the instructions on the nutrient bottles. **CAUTION – DO NOT MIX THE TWO NUTRIENTS IN CONCENTRATE FORM. THEY WILL CAUSE CHEMICAL REACTION AND RENDER THE NUTRIENT USELESS.**

A) For Gravity Fed Systems

Fill the tank to half way with water before adding any nutrients as recommended on the label and then top up the tank. Give it a good stir.

B) For Pressure Regulator

During potting, mix into the potting mix a slow release fertilizer that has 12 months nutrient release. You would need to feed manually once in 2 to 4 weeks with liquid food.

C) For Pressure Pump Unit

For pressure pump fed system, nutrient application is automatic. Instruction on nutrient mixing is provided in the instruction that came with the pump set kit.

For best results, use Auto-Pot liquid nutrients. They come in three sizes:-

- 1 liter pack
- 5 liter pack
- 10 liter pack

As far as possible, use liquid nutrients. Powder nutrients are cheaper but you have to exercise caution with regards to the sediments.



Auto-Pot Nutrient in 2 x 5 Liter pack